Kurt Lesker Low Pressure RF Sputtering System

Kurt J. Lesker CMS-18 is a versatile thin film deposition system for advanced materials research and development. It has two DC and one RF sputtering targets typically for thin film deposition application. Deposition targets could be widely spread from metals (such as silver) to semiconductors (such as silicon) and even insulators (such as silicon dioxide).

**Features:**

- Symyx® Licensed CMS package
- Deposition temperature control system up to 800°C
- Vacuum level down to 10-9 torr
- Computer controlled
- Good uniformity over 4” wafers
- Wide range of materials (from metal to insulator) can be deposited
- Cylindrical 304 stainless steel chamber
- Chamber top plate assembly with hoist
- Three TORUS® magnetron sputtering sources
- Turbomolecular and cryogenic pumping
- Computer-controlled process automation
- Substrate fixture with rotation
- Substrate load lock
- Extruded aluminum system support frame

In a magnetron sputtering application, the high voltage is delivered across a low argon gas to create high-energy plasma. This plasma emits a colorful halo of light often referred to as a "glow discharge" and consists of electrons and gas ions. These energized plasma ions strike a target composed of the desired coating material. The force causes atoms to eject from the target material and bond with those of the substrate. Because sputtering takes place in a high-energy environment, it creates a virtually unbreakable bond between the film and its substrate at the atomic level, creating one of the thinnest, most uniform, and most cost-effective films possible.